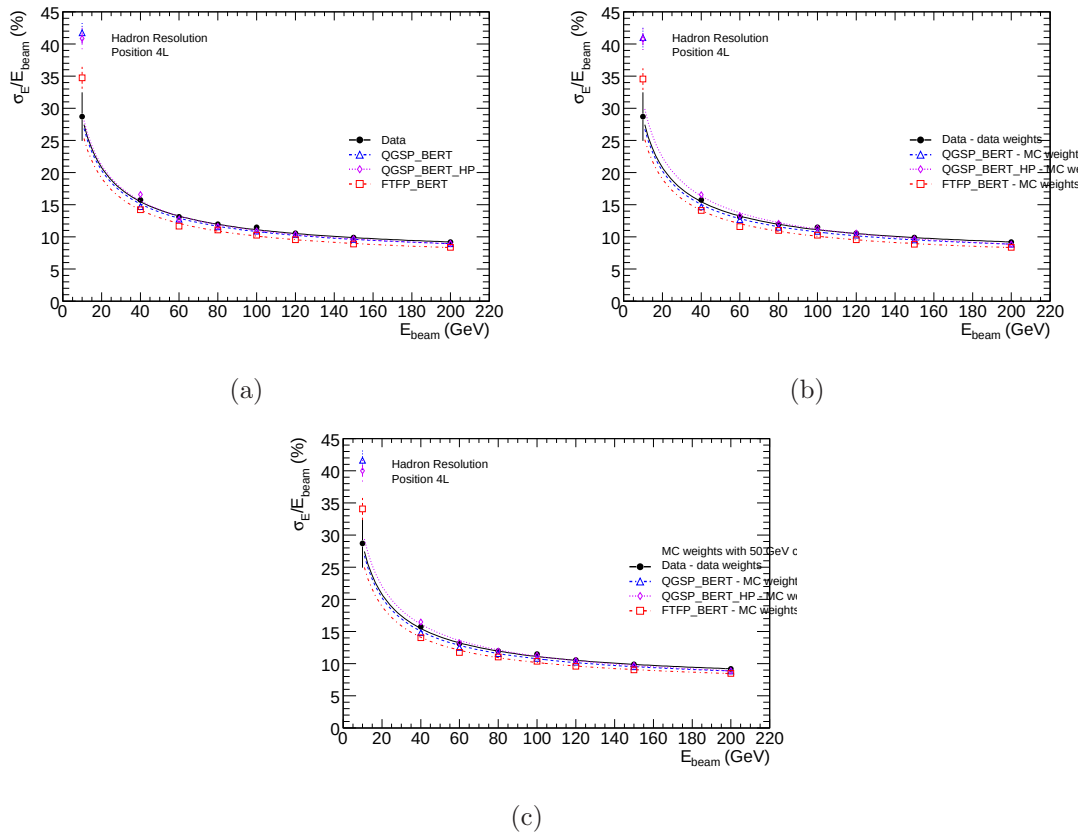


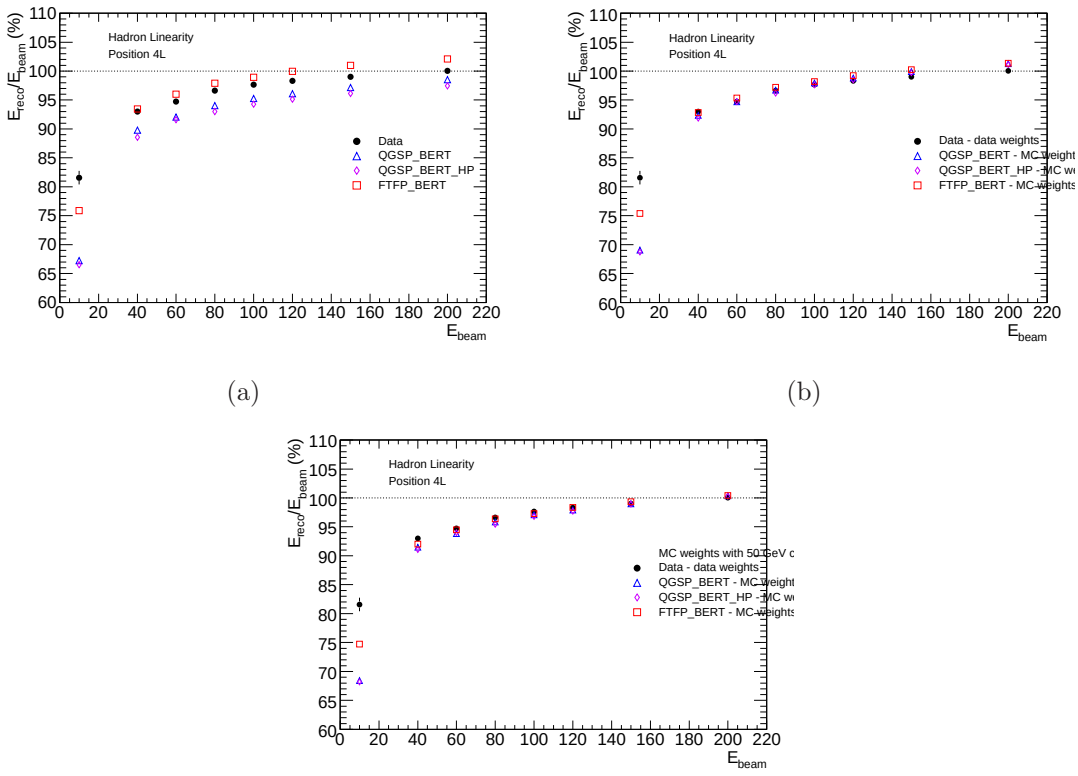
Figure 1: pion resolution at 4L. For the plot on the left, MC results are calibrated to hadronic scale using weights derived from data. For the plot in the centre, the MC is calibrated using weights derived from MC. For the plot on the right, the MC results are calibrated using weights derived from MC, but only events with energy greater than 50GeV are used in the derivation.

	Stochastic Term (% $GeV^{1/2}$)	Constant Term (%)
Data (data weight)	88.0 ± 0.6	6.79 ± 0.06
QGSP_BERT (data weight)	86.2 ± 1.1	6.54 ± 0.18
QGSP_BERT_HP (data weight)	90.5 ± 1.1	6.22 ± 0.13
FTFP_BERT (data weight)	81.2 ± 1.1	6.04 ± 0.11
QGSP_BERT (MC weight)	85.8 ± 1.1	6.46 ± 0.12
QGSP_BERT_HP (MC weight)	97.1 ± 1.0	5.60 ± 0.13
FTFP_BERT (MC weight)	80.6 ± 1.1	6.07 ± 0.11
QGSP_BERT (MC w/ 50GeV cut)	86.0 ± 1.1	6.44 ± 0.12
QGSP_BERT_HP (MC w/ 50GeV cut)	95.3 ± 1.0	5.81 ± 0.14
FTFP_BERT (MC w/ 50GeV cut)	79.9 ± 1.1	6.30 ± 0.11

Table 1: Fit parameters for energy resolution to hadrons at position 4L, using weights derived from data and MC.

	Stochastic Term (% $GeV^{1/2}$)	Constant Term (%)
Data (data weight)	121.3 ± 0.6	7.13 ± 0.07
QGSP_BERT (data weight)	127.2 ± 1.1	6.41 ± 0.17
QGSP_BERT_HP (data weight)	119.6 ± 1.2	7.71 ± 0.15
FTFP_BERT (data weight)	115.8 ± 1.1	7.12 ± 0.14
QGSP_BERT (MC weight)	128.9 ± 1.1	6.16 ± 0.18
QGSP_BERT_HP (MC weight)	123.4 ± 1.2	7.44 ± 0.16
FTFP_BERT (MC weight)	117.9 ± 1.1	7.00 ± 0.15
QGSP_BERT (MC w/ 50GeV cut)	126.7 ± 1.1	6.52 ± 0.17
QGSP_BERT_HP (MC w/ 50GeV cut)	121.6 ± 1.2	7.61 ± 0.15
FTFP_BERT (MC w/ 50GeV cut)	116.5 ± 1.1	7.19 ± 0.15

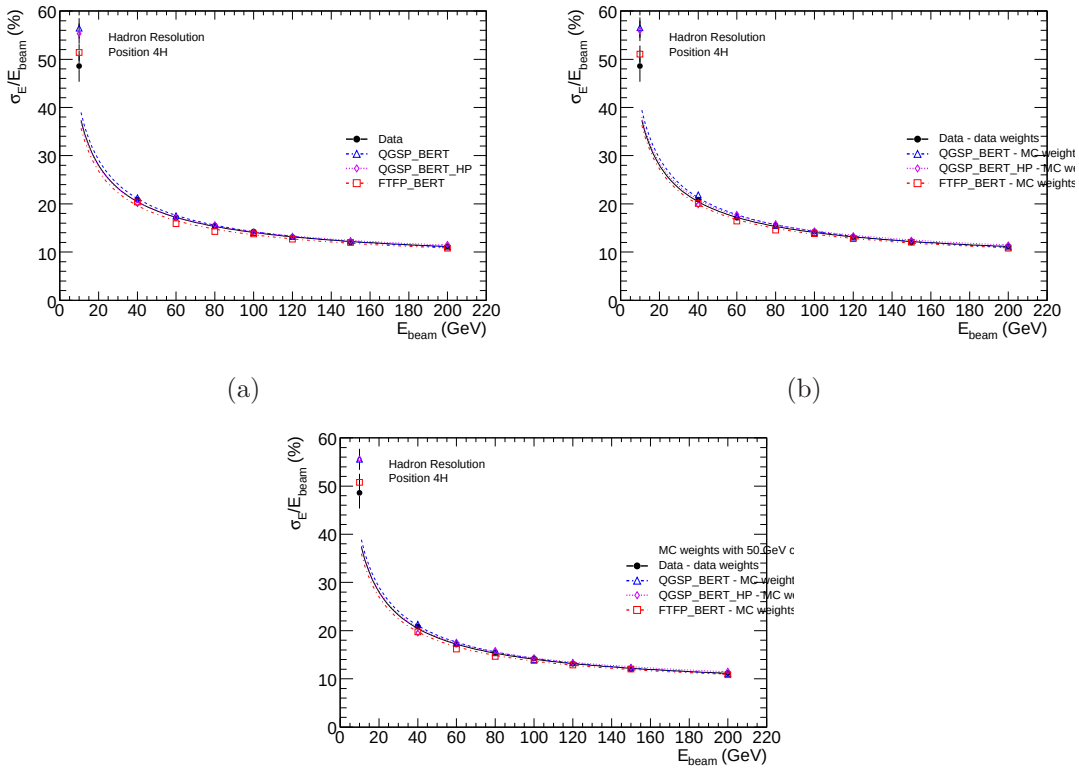
Table 2: Fit parameters for energy resolution to hadrons at position 4H, using weights derived from data and MC.



(a) (b)

(c)

Figure 2: Ratio of reconstructed energy to beam energy for hadrons directed at position 4L. Left plot shows results obtained when data-derived weights are used in the reconstruction of MC results, in the centre the MC is reconstructed using weights derived from MC. On the right, the weights have (again) been derived from MC, but only events with at least 50GeV of energy (EM scale) are used in the derivation.



(a) (b)

(c)

Figure 3: pion resolution at 4H. For the plot on the left, MC results are calibrated to hadronic scale using weights derived from data. For the plot on the right, the MC is calibrated using weights derived from MC.

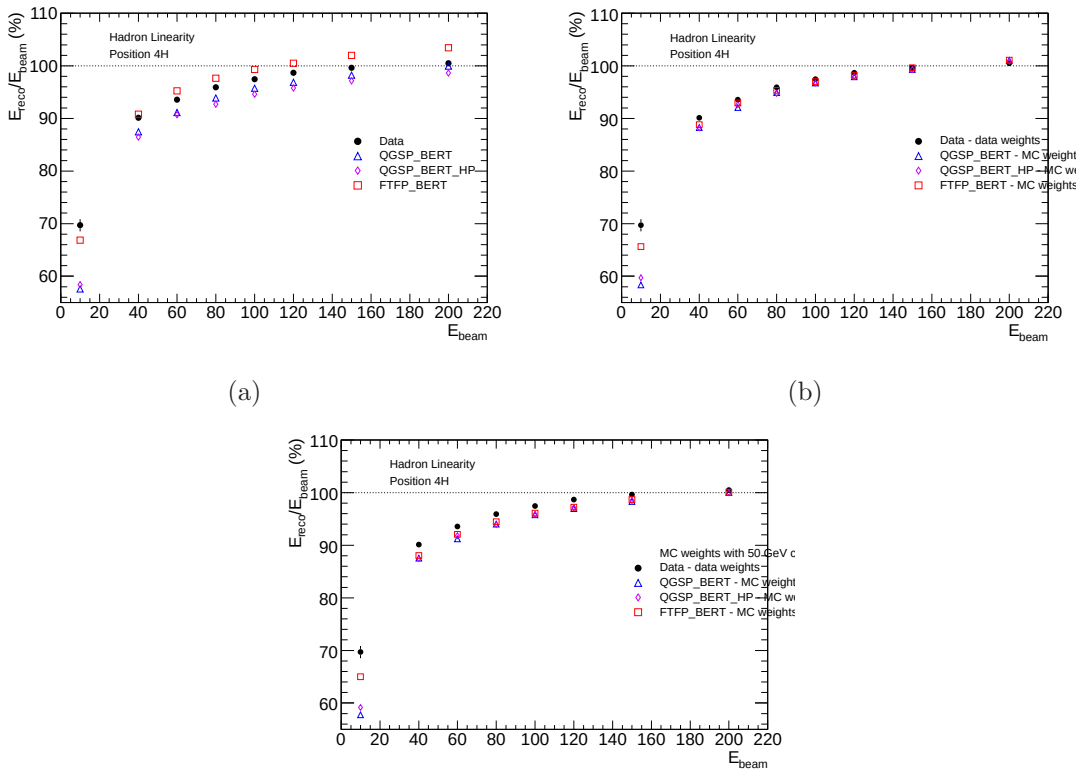


Figure 4: Ratio of reconstructed energy to beam energy for hadrons directed at position 4H. Left plot shows results obtained when data-derived weights are used in the reconstruction of MC results, in the centre the MC is reconstructed using weights derived from MC. On the right, the weights are derived from MC, but only events containing at least 50 GeV of deposited energy (EM scale) are used.

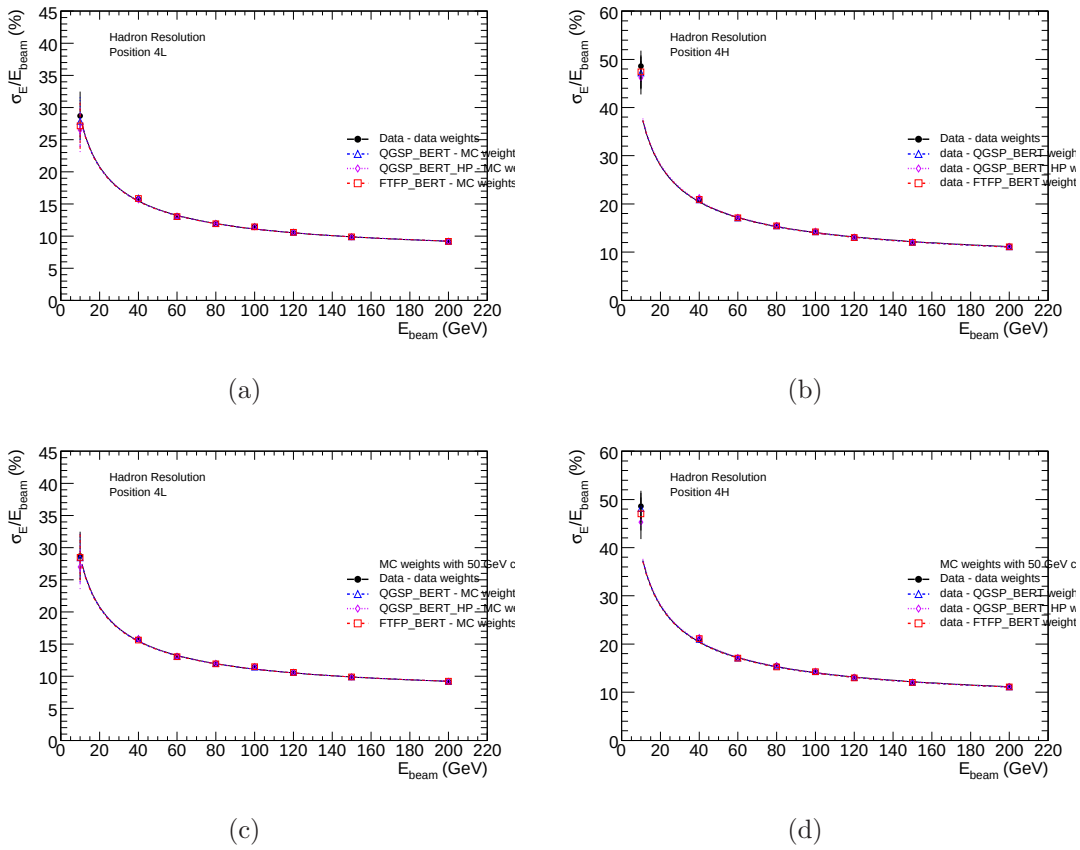


Figure 5: Resolution to hadrons at 4L (left) and 4H (right). All results are obtained from data, with some curves using weights derived from MC. For the plots in the bottom row, the weights were derived from MC events in which more than 50GeV (EM scale) of energy was deposited in the calorimeter.

	Stochastic Term (% $GeV^{1/2}$)	Constant Term (%)
Data (4L, Data weight)	88.0 ± 0.6	6.79 ± 0.06
Data (4L, QGSP_BERT)	87.5 ± 0.6	6.84 ± 0.06
Data (4L, QGSP_BERT_HP)	88.0 ± 0.6	6.79 ± 0.06
Data (4L, FTFP_BERT)	87.2 ± 0.6	6.86 ± 0.06
Data (4L, QGSP_BERT > 50GeV)	87.5 ± 0.6	6.84 ± 0.06
Data (4L, QGSP_BERT_HP > 50GeV)	88.2 ± 0.6	6.78 ± 0.06
Data (4L, FTFP_BERT > 50GeV)	87.1 ± 0.6	6.87 ± 0.06
Data (4H,Data weight)	121.3 ± 0.6	7.13 ± 0.07
Data (4H,QGSP_BERT)	121.2 ± 0.6	7.00 ± 0.07
Data (4H,QGSP_BERT_HP)	122.6 ± 0.6	6.97 ± 0.07
Data (4H,FTFP_BERT)	121.3 ± 0.6	6.99 ± 0.07
Data (4H,QGSP_BERT > 50GeV)	121.2 ± 0.6	7.01 ± 0.07
Data (4H,QGSP_BERT_HP > 50GeV)	122.5 ± 0.6	6.99 ± 0.07
Data (4H,FTFP_BERT > 50GeV)	120.5 ± 0.6	7.07 ± 0.07

Table 3: Fit parameters for energy resolution to hadrons. Quoted uncertainties are statistical only.

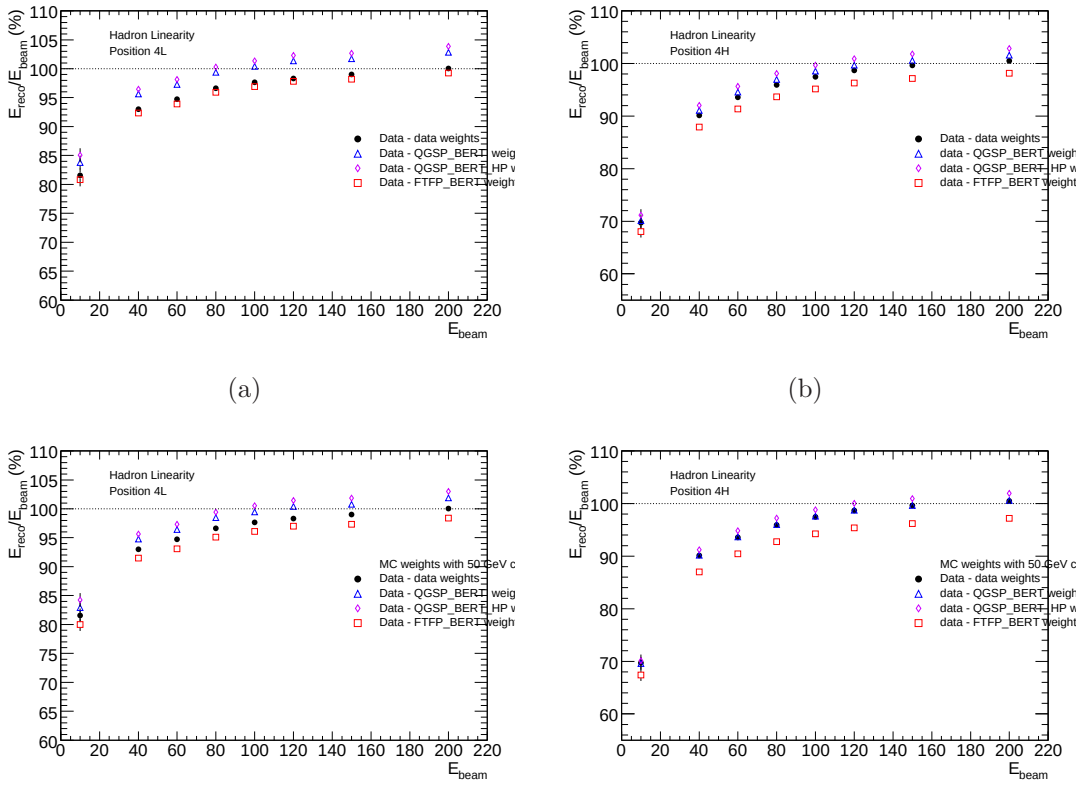


Figure 6: Ratio of reconstructed energy to beam energy for hadrons directed at position 4L (left) and 4H (right). All results are obtained from data, with some curves using weights derived from MC. For the plots in the bottom row, the weights were derived from MC events in which more than 50GeV (EM scale) of energy was deposited in the calorimeter.